

REMARKS

Claims 9-28 are presently in the application. Claim 1-8 have been canceled.

Claims 9-28 have been rejected under 35 U.S.C. 102(b) as anticipated by Houser et al (US 2,301,407). Reconsideration of the rejection is requested.

Houser et al teaches a high-pressure pump for a fuel injection system of an internal combustion engine, the pump comprising a casing or housing 7 having upper casing part 16 (p. 2, right-hand column, l. 30) and lower casing part 39 (p. 2, right-hand column, l. 75) with at least one pump element including a pump piston 43 driven into a stroke motion by a drive shaft 68; the pump piston 43 being guided so that it can slide in a cylinder bore 42 of a housing part (actually, cylinder 41 received in lower casing part 39) and delimiting a pumping chamber 37 therein; a support element 71 supporting the pump piston 43 against the drive shaft 68; a prestressed return spring acting on both the pump piston and the support element in the direction toward the drive shaft; and a receptacle 70 secured in cylinder 65 of plate 64, which, in turn, is screwed to the under side of casing part 39.

Independent claim 9 requires a pump housing with “a housing part” containing a cylinder bore and a receptacle for guiding a support element so that the support element can slide in the receptacle in the direction of the longitudinal axis of the pump piston. Attention is directed to the actual language of claim 9 which requires that the receptacle and the cylinder bore are contained in the same housing part.

The examiner gives the language “a housing part” an overly broad meaning and reads the language on the elements 16, 39, 41 and 64, all of which are different parts of the housing 7.

Thus, in Houser et al, the cylinder bore in which the pump piston is guided and the bore in which the tappet or support is guided are contained in separate housing parts so that assuring an exact alignment of the cylinder bore and the bore for the tappet requires complex centering measures to align the housing parts in relation to each other.

The advantage of applicants' invention over that taught by Houser et al is that the cylinder bore for the pump piston and the receptacle for the support element are contained in the same housing part. This feature of applicants' claimed invention is clearly not taught or suggested by Houser et al.

To support a rejection of a claim under 35 U.S.C. 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984).

Houser et al does not describe a high-pressure pump of the type recited in claim 9 including "a receptacle contained in the same housing part that contains the cylinder bore, the support element being guided so that it can slide in the receptacle in the direction of the longitudinal axis of the pump piston." Accordingly, Houser et al does not anticipate claim 9 or any of the claims dependent thereon.

Claim 9 also requires "a receptacle . . . , the support element being guided so that it can slide in the receptacle in the direction of the longitudinal axis of the pump piston, but cannot rotate around the longitudinal axis" (emphasis added).

Houser teaches that a compression spring is contained within the “annular space between the sleeve 70 and the interior of the cylinder 65” (see, page 3, right-hand column, lines 1-3). Thus, the cylinder 65, the sleeve 70 and the “support element” 71 must be annular. As a result, the “support element” 71 in Houser et al is not guided so that it can slide in the “receptacle” 70 in the direction of the longitudinal axis of the pump piston in a non-rotatable manner as required by the language of claim 9. For this additional reason, claim 9 is not anticipated by Houser et al.

Claim 10 has also been amended to better define the applicants’ invention over that taught by Houser et al. As seen in applicants’ Fig. 2, the claimed receptacle 46 has an end wall (the top wall of the receptacle 46, as seen in Fig. 2) which is coplanar with the end of the cylinder bore oriented towards the drive shaft.

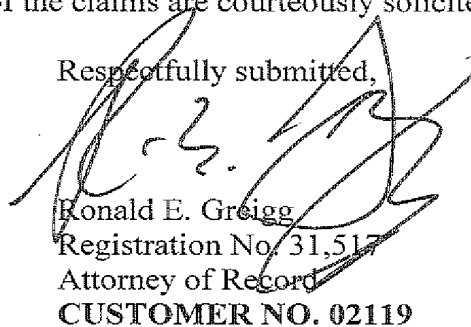
In contrast, Houser et al teaches a pump piston 43 guided in a cylinder bore 42 of a sleeve 41 and a receptacle 70 having an end wall which is shown in Fig. 2 to be coplanar with the top of plate 64. The top of plate 64 is not coplanar with the end of cylinder bore 42. Thus, Houser et al does not teach the subject matter recited in claim 10.

Claims 13-15 require that the support element be “embodied as at least approximately rectangular in cross section.” Again, Houser et al teaches that a compression spring is contained within the “annular space between the sleeve 70 and the interior of the cylinder 65” (see, page 3, right-hand column, lines 1-3). Thus, the cylinder 65, the sleeve 70 and the “support element” 71 must be annular, not rectangular as required by claims 13-15. For this additional reason, claims 13-15 are not anticipated by Houser et al.

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Entry of the amendment and allowance of the claims are courteously solicited.

Respectfully submitted,



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